

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V DRAFT PERMIT NO. V-08-008
HANSON BRICK EAST, LLC, DBA HANSON BRICK
STANTON, KENTUCKY.
APRIL 15, 2008
ROBERT L. WILLIAMS, REVIEWER
PLANT I.D. # 21-197-00001
AI # 3798

SOURCE DESCRIPTION:

On March 5, 2008, Hanson Brick East, LLC dba Hanson Brick (formerly U.S. Brick – Sipple Division) submitted a Title V Operating Permit renewal application to the Division. As part of this renewal request Hanson Brick is requesting a permit restriction that limits the facility to operating only one kiln and dryer, the “Old” Lingl Kiln and Dryer, emission point 02 (02). The operational authority for the “New” Lingl Kiln and Dryer will be rescinded with the issuance of the renewal permit. Hanson Brick operates a brick manufacturing plant at 2014 Morris Creek Road in Stanton, Kentucky. The primary SIC code for this facility is 3251.

Clay is mined and stored on site. After the clay is crushed, screened and sized for manufacturing, it is mixed with sand (75% clay to 25% sand) in a pug mill while water is added. Bricks are formed through a die and cut operation. After cutting, the brick is dried and vitrified, employing two natural gas-fired kilns.

The raw material handling equipment is enclosed in a large building and consists of a receiving hopper, grinder, two screens and associated conveyors, installed in 1971, and a primary crusher, screen and conveyor, added in 1992. Fugitive particulate emissions are collected by hoods and vented to a large baghouse located outside the building.

Two natural gas-fired tunnel dryer/kilns were installed in 1971 and 1980. Both were modified to burn coal in 1984 and 1985, however, use of coal as a fuel was discontinued by 1992. Neither kiln is equipped with air pollution control equipment.

A brick crushing operation was added in 1996. Equipment includes a feed hopper, primary crusher, double screen, and conveyors. Fugitive particulate emissions are controlled by wet suppression.

Hanson Brick is currently operating under:

Permit V-04-017, signed February 27, 2004, which covers their raw material handling, brick dryer / kiln operation, crushing and screening, brick crushing operation, and the haul road and yard area.

COMMENTS:

TYPE OF CONTROL AND EFFICIENCY

The particulate emissions from the raw material handling, crushing and screening are controlled by the entire emission unit enclosed in a building and a baghouse (control efficiency of 99.9%). The particulate emissions from the brick crushing operation are controlled by wet suppression.

The CO, NO_x, and SO₂ have no controls assigned to them.

The emissions from the unpaved haul roads are controlled by a wet suppression method (water truck). The unpaved haul roads have a control efficiency of 70%.

EMISSION FACTORS AND THEIR SOURCE

AP-42, Chapter 11.3, Brick and Structural Clay Product Manufacturing, was used for the brick dryer / kiln, and the grinding and screening operations for the raw material, crushing and screening, and brick crushing operation.

AP-42, Chapter 11.19.2, Crushed Stone Processing and Pulversized Mineral Processing, was used for the conveying for the raw material, crushing and screening, and brick crushing operation.

Emission Factors for the receiving hopper, stockpiles and loadouts for the brick crushing operation are the standard factors used for the limestone industry in the State of Kentucky by the Division for Air Quality's Minerals Section.

APPLICABLE REGULATIONS

The Raw Material Handling is governed by **401 KAR 59:010**, New process operations; and **401 KAR 61:020**, Existing process operations.

The Brick Dryer / Kiln Operation is governed by **401 KAR 59:010**, New process operations; and **401 KAR 53:010**, Ambient air quality standards.

The Crushing / Screening and Brick Crushing Operation – Crushing and Screening are governed by **401 KAR 60:670**, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 3 of 401 KAR 60:670).

The Brick Crushing Operation – Receiving and Loadout and Haul Road and Yard Area are governed by **401 KAR 63:010**, Fugitive emissions.

PROPOSALS:

On March 5, 2008, the Division received an application from Hanson Brick requesting the operational authority for the “New Kiln” be rescinded. After discussions with Division staff, they have also included a request for the renewal of their existing permit with the permit modification. Although the operational authority for the “New Kiln” will be rescinded with the issuance of this permit, the limitations regarding the “New Kiln” will remain with the permit since the kiln will still be located on site.

EMISSION AND OPERATING CAPS DESCRIPTION:

Although the operational authority for the “New Kiln” will be rescinded with the issuance of this permit, Hanson Brick has stated in their application that the operation of the “New Kiln and Dryer [emission point 03 (03)] will cease for an indefinite period of time. To avoid the possibility of new source review (NSR) applicability, it will be necessary for Hanson Brick to perform regular maintenance on the “New Kiln” during this “down time” to demonstrate their intention of bringing the “New Kiln” back on line at some future date.

The source is major with respect to particulate matter and gaseous fluoride emissions. The current Title V Permit, V-04-017, requires:

Pursuant to Regulation 401 KAR 53:010, Ambient air quality secondary standards, emission concentrations of gaseous fluoride (HF) modeled beyond the property boundary shall not exceed the following averages more than once per year:

1. Maximum One-Week Average: 1.64 ug/m³
2. Maximum Twenty-Four-Hour Average: 2.86 ug/m³

In order to avoid exceeding the ambient air quality standard for gaseous fluoride (HF), as listed in 401 KAR 53:010, the source has requested the removal of the operational authority for the “New” Lingl Kiln and Dryer with the issuance of the renewal permit

PERIODIC MONITORING:

The Permittee is required to perform daily visible emission observations, during plant operations, to determine if fugitive dust from the raw material handling equipment, haul roads, storage piles, and/or loading and unloading is being generated in such an amount or manner as to cause a nuisance or to cross the property line.

The Permittee is required to perform visible emission observations at least once per operating day for the operational kiln and dryer.

The permittee shall maintain records of the monthly amount of bricks processed and the monthly hours of operation (hours operated / month) for the operational kiln and its associated dryer at the facility to demonstrate compliance with the brick production limits and avoid exceeding the ambient air quality standard for gaseous fluoride (HF), as listed in 401 KAR 53:010.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.